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NON-PROVISIONAL PATENT

PHASE ANGLE CONTROLLED STATIONARY ELEMENTS FOR LONG WAVELENGTH ELECTROMAGNETIC RADIATION

CROSS-REFERENCE TO RELATED APPLICATIONS

The instant invention is a continuation in part of co-pending U.S. Patent Application Number 10/226,828, entitled "Phase Angle Controlled Stationary Elements for Wavefront Engineering of Electromagnetic Radiation" and filed on August 23, 2002, now U.S. Patent 6,768,666 B2; the disclosure of which is hereby incorporated by reference.

EAZ 12-27-04

FIELD OF INVENTION

This invention relates to devices for controlling the direction of propagation and degree of focusing of electromagnetic radiation. More particularly, this invention relates to stationary elements that provide control over the reflection, transmission, focusing, and defocusing of long wavelength electromagnetic radiation. Most particularly, this invention relates to reconfigurable elements for modifying the phase of incident electromagnetic radiation in the terahertz frequency range of the electromagnetic spectrum.

BACKGROUND OF THE INVENTION

Interest in terahertz frequency systems has been steadily increasing over the past several years as their unique capabilities are identified and technological barriers to their realization are overcome. The terahertz frequency region (frequencies of ca. 0.3 THz and higher (corresponding to wavelengths of ca. 1 mm and shorter) offers a number of advantages including large bandwidths and a significant reduction in size and weight relative to existing microwave electromagnetic systems. Several applications that depend on or are expected to benefit from